

REMARKS

The only issues outstanding in the Office Action mailed December 4, 2004, are the three rejections under 35 U.S.C §103. Reconsideration of these issues, in view of the following discussion, is respectfully requested. The Examiner is thanked for indicating the withdrawal of the prior rejections under 35 U.S.C §112.

Claims 1 - 24 remain rejected under 35 U.S.C §103 in various combinations, as set forth in the first three paragraphs at page 3 of the Office Action. This rejection is premised upon the argument that Witschard teaches a block copolymer including, as a third comonomer, the present A block which is compatible with fluoro-resin, but incompatible with the other two blocks of the triblock copolymer. The Office Action, for example at page 3, argues that Witschard teaches such an A block at column 8, lines 32 - 34 and column 12, lines 32 - 34. It is again respectfully submitted that this interpretation of Witschard is in error.

To the contrary, that Witschard does *not* disclose a blend of a semi crystalline thermoplastic fluoro-resin and an ABC triblock copolymer, in which the A block is compatible with the fluoro-resin, the B block is incompatible with the fluoro-resin and incompatible with the A block, and the C block is incompatible with the fluoro-resin, the A block and the B block. In fact, the cited portion of Witschard teaches a “block polymer” component with a “major proportion” of monomer units derived from (1) a mono-alkynyl-substituted aromatic compound of the benzene or naphthalene series containing 8 - 20 carbon atoms and (2) a conjugated hydrocarbon alkadiene of 4 to 10 carbon atoms. See column 7, lines 56 - 64. This portion of the disclosure, of course, does not encompass present component (A) of the claimed triblock copolymer, blocks which are incompatible with the fluoro-resin. Since the disclosure of diblock and triblock polymers at column 9 follows on directly to this disclosure, it is submitted that patentees teach the use, as a third block in the triblock polymer, the same blocks used in the preceeding disclosure.

This is all the more evident from the fact that the use of a material, for example, an alkyl ester of an acrylate or methacrylate which is polar and thus *compatible* with the fluoro-resin, requires special handling and techniques which are not disclosed in the patent. In particular, patentees teach that the synthesis of their block copolymers is by anionic polymerization, see

column 8, lines 54 - 57. Such chemistry is well known for the production of block copolymers such as styrene/butadienes, as produced in the reference. When polar monomers such as methacrylates are introduced, it is necessary to lower the reactivity of the anionic sites, or else side reactions occur which result in deactivation of the polymerization. The previously cited “Anionic Polymerization Fundamentals”, M. Swarc (1996), Section 3.2.3.4, teaches that anionic polymerization of acrylic monomers is hampered by side reactions caused by the integral polar groups of these monomers. The authors teach that the interaction of ionic end groups of the propagating polymers with the polar groups of the monomers can terminate the polymerization. The authors further teach that the complex anionic polymerization of methylmethacrylate can be conducted under “special conditions”, using specified initiators, solution concentration and reaction temperatures. Moreover, the previously cited “Anionic Polymerization: Principles and Practical Applications”, H. L. Hsieh (1996), teaches that monomers with polar substituents undergo side reactions with initiators and propagating anions and that polymerization thereof is not always possible. The authors moreover teach that it is necessary to carefully select initiators in order to conduct such a polymerization, and also that it is necessary to conduct polymerizations at relatively low temperatures.

The polar monomers discussed at column 8, lines 40 - 44 of Witschard thus would be well known to require special anionic polymerization conditions, *if* they were to be used as a *discrete* block in the preparation of a triblock polymer. However, patentees fail to disclose such special conditions and, as a result, one of ordinary skill in the art would interpret the Witschard disclosure for exactly what it states at column 8, lines 32 - 39: the monomers used in the polymerization might contain small amounts of polar monomer as “comonomer units” but, clearly, *not* as a discrete block in and of themselves. Thus, where triblock polymers are disclosed by the patent, it is clear that they are triblocks of materials which are not inclusive of a block which is compatible with the resin as presently claimed A. This is clearly why the term “minor proportions” is used in the patent inasmuch as one of ordinary skill in the art would understand, if too great a proportion of the material was used, the polymerization would be deactivated.

Moreover, attention is directed to the article of Webster, provided herewith, teaching that methacrylates and acrylates are distinct in terms of polymerizability (e.g., see page 889, left hand

column, the indicated passages in the first two full paragraphs). The article teaches that, where polar functional groups are present, the polymerization tends to cease (e.g., see the indicated passage at the top of the left hand column at page 889).

As further evidence of Witschard's failing to teach the production of a triblock where one block is comparable with fluororesin, (although it is submitted to be unnecessary in view of the implausibility of the interpretation of the Witschard reference promoted in the Office Action), attention is directed to the attached declaration under 37 C.F.R. §1.132, in which an expert in the polymerization arts states that the Witschard disclosure does not disclose linear triblock polymers having a first block which is incompatible with fluororesin, a second block incompatible with fluororesin and the first block, and a third block incompatible with fluororesin and the first two blocks. In particular, the declaration teaches that, to produce a styrene/butadiene/methylmethacrylate polymer as argued to be obvious in view of the reference, it is necessary to first polymerize styrene, then butadiene and finally methylmethacrylate. If the monomers are included all at once, styrene will preferably react with methylmethacrylate, and only styrene/methylmethacrylate will be formed, the butadiene being unreacted. Styrene/methylmethacrylate, once formed, cannot react with butadiene inasmuch as the electroaffinity favors the reaction of methylmethacrylate and styrene instead. Thus, the declaration explains that the passage at column 8, lines 32 - 44 of the reference (heavily relied upon in the Office Action) teaching that "if desired, the alkadiene can contain minor proportions of residues" of methylmethacrylate is simply an erroneous teaching, and at best cannot teach the production of a methacrylate *block*. The declaration states that, should the concentration of these methacrylate residues be comparable to that of the styrene, as would be necessary to produce a block, these materials will react with the styrene and butadiene itself will not react. Thus, this disclosure does not teach the preparation of a triblock polymer containing methylmethacrylate. Instead, the disclosure has to be interpreted, as it would be by one of ordinary skill in the art, that very minor proportions of acrylates, which do not disrupt the polymerization, maybe present. However, if sufficient acrylates are present so as to constitute a discrete block, then a styrene butadiene methylmethacrylate triblock cannot be produced under the process disclosed in the reference. Accordingly, the reference does not teach production of the same.

It is noted that only a unsigned copy of the declaration is presently available. An executed

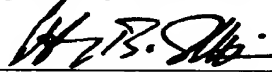
copy of the declaration will be provided as it is obtained.

Inasmuch as all of the rejections under 35 U.S.C §103 are predicated upon this misinterpretation of the Witschard reference, it is submitted that all of the rejections should accordingly be withdrawn, and the same is respectfully requested.

The claims of the application are submitted to be in condition for allowance. However, should the Examiner have any questions or comments, he is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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